

**COOLING OF A ROTOR FOR A  
ROTARY ELECTRIC MACHINE  
ABSTRACT OF THE DISCLOSURE**

5 A high-power electrodynamic machine has a relatively elongated rotor. In a preferred generator embodiment, a rotor having a winding formed integral therewith is integral to a hollow shaft mounted within a stator having a plurality of windings. The shaft has an axial end region with an inlet for a cooling fluid. The rotor winding is disposed in apposition to one of the stator windings. The rotor comprises a plurality of laminations. At least one pair of adjacent laminations has periodic slots. The slotted laminations are sandwiched between laminations without slots such that the slots in the adjacent laminations form a continuous, zigzag, generally radial outward passageway for the cooling fluid. The outlet of the passageway is arranged to discharge the fluid onto the winding to provide relatively even cooling along the entire length of the rotor without significantly reducing structural integrity.

10  
15  
20  
25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90  
95  
100  
105  
110  
115  
120  
125  
130  
135  
140  
145  
150  
155  
160  
165  
170  
175  
180  
185  
190  
195  
200  
205  
210  
215  
220  
225  
230  
235  
240  
245  
250  
255  
260  
265  
270  
275  
280  
285  
290  
295  
300  
305  
310  
315  
320  
325  
330  
335  
340  
345  
350  
355  
360  
365  
370  
375  
380  
385  
390  
395  
400  
405  
410  
415  
420  
425  
430  
435  
440  
445  
450  
455  
460  
465  
470  
475  
480  
485  
490  
495  
500